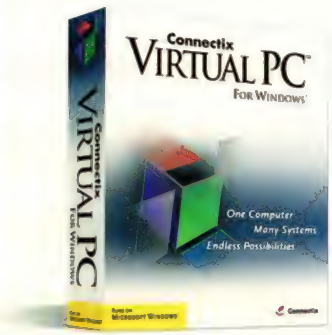
Virtual Competition:
Connectix Virtual PC 4.3 vs. VMware Workstation 3.0



Virtual PC 4.3
$199
Connectix
www.connectix.com

Having more than one OS installed on your computer is convenient but dealing with multiple drive partitions and temperamental boot loaders isn't. Virtual PC 4.3 and VMware Workstation 3.0 offer no-fuss alternatives. The apps create virtual machines that run multiple OSes—including DOS, Linux, and Windows versions—under your present Windows or Linux installation.

Connectix Virtual PC 4.3

Connectix is a long-time player in the emulator field, and the company's expertise shows. Virtual PC 4.3 is a polished, feature-filled app that works on a wider array of Windows systems than VMware Workstation, including Windows 98SE/Me/NT/2000/XP. The program also supports more guest OSes (the OSes that run virtual machines), including NetWare, Solaris, OS/2, DOS, Win3.1 and later, and Linux.

I tested Virtual PC with WinMe, Red Hat Linux, and FreeDOS. All three worked admirably. In some instances, Virtual PC is perkier than VMware, especially for full-screen text interfaces. A handy control panel with miniature versions of each PC's screen lets you switch between guest OSes. Virtual PC's guest OSes are fast enough to run office applications, but like VMware, complex games are out of the question.

For Windows-based guest OSes, you can install Virtual PC Additions, which add such helpful features as folder sharing between guest and host OSes and the ability to drag and drop files to copy them between OSes. An arbitrary Desktop resizing feature lets you quickly change the resolution of a Windows guest PC screen simply by stretching or shrinking the Virtual PC window.

Connectix offers OS Pack Add-ons, which are virtual drives with preinstalled OSes. These are analogous to VMware's Guest OS Kits, but Connectix offers a wider variety of ready-to-run OSes, including Win98/Me/2000/XP Professional and Home. I tested the WinMe OS Pack. After some initial difficulty uncompressing its enormous Zip file, I was running WinMe on a virtual machine without the tedium of installing it. OS Packs cost $149 to $299.

A few of Virtual PC's features edge out similar functions in VMware. For instance, both programs offer a full-screen mode, but Virtual PC lets you lock users in a full-screen mode, requiring a password to regain access to the host OS. Each guest PC includes a built-in Virtual Network Computing server, letting you operate the guest OS via remote control with a standard VNC client (www.uk.research.att.com/vnc).

Virtual PC does fall short in hardware support. It handles printers, serial ports, CD-ROMs, and floppy drives, but it can't handle USB devices that require special drivers. Our digital camera was invisible to guest OSes. (USB keyboards, mice, and floppy drives are supported, however.) Virtual PC also lacks some of VMware's advanced hardware functions, such as SCSI drive emulation and unlimited virtual drives (Virtual PC's OSes are limited to three.)

Emulate A Mac On Windows?

VMware and Virtual PC work wonders for running Linux, DOS, Windows, and other PC-based OSes in a virtual machine, but what if you want to use Macintosh software on your PC?

That's more complicated. Because Macintosh uses a Motorola CPU and proprietary ROMs, a more complex emulator is necessary. The state of the art of Macintosh emulation lags far behind that of PC virtual machines. Many Mac emulators are more of a novelty than useful productivity tools.

However, options include SoftMac (www.emulators.com/softmac.htm), Basalisk II (www.uni-mainz.de/~bauec002/B2Main.html), Executor (www.ardi.com/executor.php), and The vMac Project (www.vmac.org). Don't expect these emulators to run OS X. Many can't even run PowerPC software (they're limited to ancient 68000-based code and obsolete versions of MacOS).

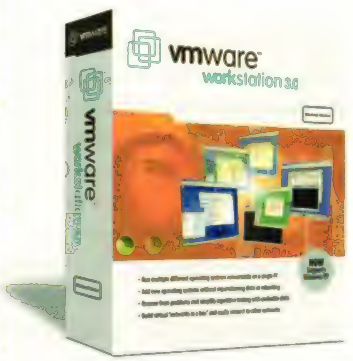
Some of these programs include a reverse-engineered version of the Mac's ROMs, the toolbox that is the heart of the Mac interface. These reverse-engineered ROMs are free and legal but aren't as reliable as the real thing. If your software doesn't include these, you'll have to provide a software copy of Mac ROMs (which will certainly raise the hackles of Apple's lawyers) or install actual Mac ROMs on a PC Card.

The bottom line: If you occasionally need to run Macintosh software, get a used Mac from the classified ads or eBay. ▲

CPU Ranking: 0 = Absolutely Worthless 2.5 = Absolutely Average 5 = Absolutely Perfect

Where VMware is available for Windows and Linux, Virtual PC is available for Windows and Macintosh. Virtual PC's hard drive files are compatible with the Mac version, so you can move virtual PCs between platforms.

At $199, Virtual PC is $100 less than VMware. A 45-day trial version is available for download from www.connectix.com. The program has a bit more polish than VMware Workstation, and extra touches make it a great choice, even if you're not a computer geek. The only major drawback is a lack of support for USB peripherals.



VMware Workstation 3.0
$299
VMware
www.vmware.com

CPU CPU CPU CPU CPU

VMware Workstation 3.0

VMware Workstation 3.0 runs DOS, Linux, any Windows version, and FreeBSD. You can even run several OSes simultaneously. VMware says the program doesn't work with OS/2; Solaris and NetWare may work but aren't officially supported. The host PC you run VMware on must be running Linux or WinNT 4.0/2000/XP.

I tested VMware with WinXP Pro, Red Hat Linux, and FreeDOS. VMware worked commendably with all three; the OSes remained blissfully unaware they were living in captivity. There is some overhead in running one OS within another, but virtual computers running in VMware are more than fast enough for word processors, Web browsers, and other business apps. All-text modes were noticeably sluggish, especially during scrolling.

VMware's hardware emulation is particularly strong, offering four networking modes for guest OSes, including NAT (Network Address Translation) and bridged networking. VMware uses virtual hard drives to store guest OS data. The virtual hard drives can emulate IDE or SCSI, and you can control the bus parameters of virtual drives (deciding if each is a master or slave drive, for example). Each guest OS can have any number of virtual hard drives and can access files on physical drives, too.

Support for many USB devices is also included. I was able to download images from a digital camera without fuss using WinMe as a guest OS. VMware doesn't support USB modems or devices that stream audio and video.

When you install Windows or a graphical Linux system within VMware, the guest OS display is set to an agonizingly low resolution and bit depth. Installing VMware Tools (a special set of graphics drivers) is the solution. This is an easy, one-click operation under Windows. Installing the Linux version wasn't as easy; uncompressing the archive and running the install script is a challenge when you can see only a quarter of the screen.

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You can install guest OSes from CD, floppies, or ISO images you download. Alternately, buying an optional Guest OS Kit gives you a ready-to-use virtual drive with a preinstalled OS. The only Guest OS Kit currently available is for Win2000 ($199), but a WinXP version is planned.

VMware costs $299. You can try it for 30 days free by downloading it from www.vmware.com. VMware Workstation doesn't match Virtual PC feature for feature, but its advanced hardware emulation and USB support make it an excellent choice. CPU

by Kevin Savetz

What They Can & Can't Do

	Workstation 3.0	Virtual PC 4.3
USB Device Support	Yes	No
Full-screen Mode	Yes	Yes
Ability To Lock Users In Guest OS	No	Yes
Ready-to-run OS Packs	Win2000 only; WinXP is planned	Win98/Me/2000/ XP Pro and Home
Officially Supported Guest OSes	Win3.1 and later, DOS, Linux, FreeBSD	Win3.1 and later, DOS, Linux, NetWare, Solaris, and OS/2
OSes Supported	WinNT/2000/ XP and Linux	Win98/Me/NT/2000/ XP and Mac
Free Trial	Yes	Yes
Cost	$299	$199

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